

II. Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A MEMS device, comprising:
a plurality of actuator layers formed over a substrate, including a first layer and a second layer;
a bimorph actuator having a substantially serpentine pattern, wherein the serpentine pattern is a staggered pattern having a plurality of static segments interlaced with a plurality of deformable segments, each of the plurality of static segments having a static segment length and each of the plurality of deformable segments having a deformable segment length, wherein the deformable segment length is substantially different than the static segment length, wherein at least a portion of each of the plurality of static segments is defined from the first layer, and wherein at least a portion of each of the plurality of deformable segments is defined from both of the first and second layers.
2. (Previously presented) The device of claim 1 wherein the first and second layers are adjacent.
3. (Previously presented) The device of claim 1 wherein the first and second layers have different coefficients of thermal expansion.
4. (Previously presented) The device of claim 1 further comprising a payload coupled to the bimorph actuator and movable between first and second orientations in response to exposure of the bimorph actuator to electrical energy.
5. (Original) The device of claim 1 wherein at least one of the plurality of deformable segments and the plurality of static segments has a substantially rectilinear pattern.
6. (Original) The device of claim 1 wherein at least one of the plurality of deformable segments and the plurality of static segments has a substantially curvilinear pattern.

Claims 7-9. (Canceled).

10. (Previously presented) The device of claim 1 further comprising a payload coupled to the bimorph actuator and movable between first and second orientations in response to exposure of the bimorph actuator to thermal energy.

Claims 11-15. (Canceled).

16. (Previously presented) The device of claim 1 further comprising a payload coupled to the bimorph actuator and movable between first and second orientations relative to the substrate.

Claims 17 and 18. (Canceled).

19. (Previously presented) The device of claim 1 wherein the actuator has a patterned line width of less than about 50 microns.

20. (Previously presented) The device of claim 1 wherein the actuator has a patterned line width of less than about 1000 nm.

21. (New) A MEMS device, comprising:
a plurality of actuator layers formed over a substrate, including a first layer and a second layer;
a bimorph actuator having a substantially serpentine pattern, wherein the serpentine pattern is a staggered pattern having a plurality of static segments interlaced with a plurality of deformable segments, each of the plurality of static segments having a static segment length and each of the plurality of deformable segments having a deformable segment length, wherein the deformable segment length is substantially different than the static segment length, wherein at least a portion of each of the plurality of static segments is defined from the first layer, wherein at least a portion of each of the plurality of deformable segments is defined from both of the first and second layers, and wherein the actuator has a patterned line width of less than about 1000 nm.

22. (New) A MEMS device, comprising:

a plurality of actuator layers formed over a substrate, including a first layer and a second layer;
a bimorph actuator having a substantially serpentine pattern, wherein the serpentine pattern is a staggered pattern having a plurality of static segments interlaced with a plurality of deformable segments, each of the plurality of static segments having a static segment length and each of the plurality of deformable segments having a deformable segment length, wherein the deformable segment length is substantially different than the static segment length, wherein proximate ends of at least one deformable segment and an adjacent deformable segment are offset in a direction parallel to longitudinal axes of the deformable segments, wherein at least a portion of each of the plurality of static segments is defined from the first layer, and wherein at least a portion of each of the plurality of deformable segments is defined from both of the first and second layers.